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CENTRAL INTELLIGENCE AGENCY 25X1 REPORT

INFORMATION REPORT

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SUBJECT Tube Production of the RFT Radio Plant in Erfurt

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NO. OF ENCLS. 4 (2 pages) (1 tube @) (1 chart @@) (LISTED BELOW)

DATE OF INFO.

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SUPPLEMENT TO REPORT NO.

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1. [redacted] RFT Plant in Erfurt (X 51/J 36) [redacted]

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2. The plant scheduled production of receiver tubes valued at the delivery price at 18,443,000 eastmarks in 1951, and 20,374,000 eastmarks in 1952.

3. In late 1951, the production of all kinds of tubes, except for the UBL-51 type and tubes of the Gnom series, was transferred from the Erfurt Radio Plant to the tube plant in Neuhaus.

4. The 1952 production plan was altered several times as a result of starting production of the Gnom series tubes. The various production sections were not informed about the plan until early 1952. According to this plan the plant will be fully occupied working in three shifts on the production of receiving tubes.

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5. [redacted]

25X1 The capacity of the transmitter tube section was not fully utilized under this program. The value of the 1952 oscillograph tube production was planned to be 1,300,000 eastmarks at the delivery price. (2)

6. In 1951, the production waste of the E and U-series type tubes averaged 44 percent. Specifically 20 percent were due to bad emission, 3 percent to broken glass in the exhaust pump, 1 percent to waste in the socket workshop, 5 percent to geometrical defects of the tubes, 3 percent to gosing (sic), 3 percent to heater failures, 4 percent to short circuits, and 5 percent to various other defects. In order to overcome difficulties in the production of the Gnom series tubes, it was planned to replace the Loktal-Socket by an 11-pin socket in which no guide pin was needed and the pump connection was to be fitted to the head of the bulb. During the period from 1 January to 29 February 1952, 900 EAA 171 type tubes were built in this manner, 700 of which failed at the pump. Only 15 of them passed the quality inspection on the test stand.

The frequent cracks in the sockets resulted from irregular supplies of glass and from duct pins being fitted too close to the edge of the bulb.

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7. In early February 1952, three Russians inspected the plant. They were chiefly interested in tube-measuring tables and forming frames. A member of the plant management said that the Russians planned to purchase mechanical equipment for five new tube plants scheduled to be built in the U.S.S.R. Machines ordered by late February, following this inspection, included 10 grid-notching automatic welding machines, 35 measuring tables, 30 forming frames, 5 complete automatic pumps, five 20-kw glow transmitters (Gluesender), 5 sealing machines for receiver tubes, 2 sealing machines for transmitter tubes, and 5 automatic plate-pressing machines. When the management of the plant stated that there would be a delay in the delivery of these machines because of a contract for delivery of measuring tables, forming frames, automatic pumps and sealing machines, which had been made after a Polish commission had visited the plant, the Polish contract was cancelled by the Ministry for Machine Construction. The Erfurt radio works was to deliver the machines ordered to the U.S.S.R. within three years.

8. There was a serious shortage of nickel for cathodes. A total of 50,000 small cathode tubes per month were supplied by the VEB RFT Tube Plant in Neuhaus. Zinc impurities in nickel iron were removed through a process using hydrogen vapors at 1,000 centigrade. The copper used for the grid struts was not of the required purity and caused considerable waste by poisoning the cathodes. Therefore, the copper was to be replaced by nickel. The copper wrapped wire received from the RFT Berlin Incandescent Lamp Plant was of poor quality and lacked uniformity. The supply was very irregular in late 1951. In February 1951, 150,000 sealing wires were delivered daily. Glass supplied by the Spezialglaswerk Einheit in Weisswasser (O 52/A 74) varied widely in quality and caused serious production difficulties.

9. P-2 iron was procured illegally from West Berlin through the agents Schmidt (fnu) and Kunkel (fnu). A consignment of 250 kg arrived at the plant in late February 1952. The first samples of rolled P-2 iron made by the Steel and Rolling Mill in Hettstedt (M 52/D 64) were received in February 1952. They proved too hard, and a second sample lot was too thick. The Armco iron from sheets procured from the Hettstedt firm were designated CK-10A1. The copper sheets procured from Hettstedt for glazing purposes scaled considerably because of a high percentage of phosphorus and, therefore, caused waste in the production of the RS-255, RS-261 and RS-720 transmitter tubes. Molybdenum sheets were obtained from an Austrian metal plant in Reutte, Tyrol. (4)

10. Thorium-plated low-quality tungsten wire was procured from the RFT Berlin Incandescent Bulb Plant and from Hungary. Small quantities of good quality wire of this kind were obtained from the U.S.A. via Switzerland. Sufficient quantities of good-quality stamped mica were procured through a Mr. Tietze (fnu) who lived in West Berlin. Pump oil has not been obtainable from West Germany since December 1951. The pump oil, which was procured from Luetzkendorf, could be used only after it had been repeatedly fractionated at the plant and was also used by the RFT Incandescent Lamp Plant in Berlin.

[redacted] Comments.

(1) For tabulation of tube types, see Annex 1. The production of the 6hom series tubes was not started in 1951.

(2) [redacted]

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(4) Molybdenum and tungsten are produced by the Metallwerk Plansee (Plansee Metal Works) in Reutte, Tyrol (M 47/D 28).

Production of Receiver Tubes at the RFT Radio Works in Erfurt

Type	Production Quota for 1951	Tube Components Completed in 1951	First Quality Tubes Produced in 1951	Second Quality Tubes Produced in 1951	Production Quota for 1952
EF 172	20,000				33,000
EF 173	3,750				
F 174	7,500				10,500
EF 175	3,750				29,500
UF 172	3,750				
UF 173	3,750				
UF 174	3,750				
UF 175	3,750				
UBF 171	11,200				82,500
UBF 173	10,000				76,500
ECH 171	11,250				33,500
UCH 171	10,000				76,500
ABL 171	3,750				2,000
UBL 171	3,750				30,000
EL 171	11,250				23,000
EL 172	3,750	2,780			10,000
UL 171	7,500				
UL 172	3,750				
EF 171	7,500				86,000
UF 171	7,500				600
EAA 171	3,750				11,400
UAA 171	3,750				
EF 11	90,000	162,040	113,710	2,160	78,000
EF 12	130,000	159,000	99,370	970	
EF 12 F					2,500
EF 13	55,000	55,100	44,700	400	14,000
EF 14	20,000	20,520	21,040	230	3,000
UBF 11	160,000	380,520	248,680	2,210	126,000
UBF 11	210,000	383,700	252,280	6,920	150,000
ECH 11	160,000	364,010	160,950	14,770	200,000
UCH 11	215,000	426,490	262,600	8,620	150,000
UEL 51		387,450	211,290	5,200	240,000
EL 101	10,000	3,090	140	7	500
EYY 13	7,500	12,630	5,240	-	-
EZ 11	15,000	21,880	16,710	22	3,000
RFC 5	4,000	10,360	4,360	70	5,500
LD 1	16,000	11,910	5,610	270	1,000
LG 1	5,000	2,360	1,070	-	-
UCL 11	-	-	1,130	410	-
ECL 11			225	410	-
EBC 11	4,000	11,350	6,180	600	-
Approximate Grand Total	1,250,000	2,415,000	1,255,000	53,000	1,600,000

Note: "F 12 F tubes are non-microphonic EF-12-type tubes for microphones.

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1952 Production Schedule for Transmitter and Oscillograph Tubes

Transmitter Tubes

Type	Number of Tubes Scheduled for 1952 First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
CRS 01	225	-	-	175	400
CRS 04	-	100	300	-	500
SRL 05	62	63	63	62	250
CRS 06	-	-	-	50	50
CRS 09	-	225	225	50	500
4S 207	125	125	125	125	500
RV 216	-	-	19	51	70
RS 255	-	23	7	-	30
RS 261	33	-	14	23	69
RV 271 B	-	-	-	200	200
RS 282	300	-	-	-	300
RS 384	175	175	175	175	700
RS 391	60	200	200	-	460
Grand Total					4,000

Oscillograph Tubes

OR 1/60/0.5	350	-	-	350	1,350
OR 1/100/2	250	-	-	50	300
ORP 1/100/2	150	150	150	160	610
OR 1/100/2/6	-	-	-	400	1,000
OR 2/100/2	150	150	150	100	550
OR 2/100/2/6	40	10	-	-	70
OR 2/160/2	10	10	-	-	20
OR 2/160/2/6	100	250	250	250	850
Grand Total					4,900

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